

114 Sequence Listing.ST25.txt
SEQUENCE LISTING

<110> Rodríguez Aguirre, José Francisco
González De Llano, Ma Dolores
Oña Blanco, Ana María
Abaitua Elustondo, Fernando
Maraver Molina, Antonio
Clemente Cervera, Roberto
Ruiz Castón, José
Rodríguez Fernández-Alba, Juan Ramón

<120> WHOLE EMPTY VIRAL PARTICLES OF THE INFECTIOUS BURSAL DISEASE
VIRUS (IBDV), PRODUCTION PROCESS AND APPLICATIONS

<130> 4258-114

<140> Not yet assigned

<141> 2005-09-30

<150> P200300751

<151> 2003-03-31

<150> PCT/ES2004/000147

<151> 2004-03-31

<160> 9

<170> PatentIn version 3.3

<210> 1

<211> 10909

<212> DNA

<213> Artificial Sequence

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<223> Synthetic Construct

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<221> gene

<222> (3)..(3041)

<223> Open reading frame of IBDV polyprotein in reverse complementary strand

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<221> promoter

<222> (3083)..(3211)

<223> AcMNV polyhedrin promoter

<220>

<221> promoter

<222> (3230)..(3351)

<223> AcMNV p10 promoter

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<221> CDS

<222> (3388)..(6027)

<223> Open reading frame of IBDV VP1 protein

<220>

<221> polyA_site

<222> (6068)..(6331)

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Ala Arg Ser Thr Ile Ser Ala Ala Phe Gly Ile Lys Pro Thr Ala Gly	
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Gln Asp Val Glu Glu Leu Leu Ile Pro Lys Val Trp Val Pro Pro Glu	
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Asp Pro Leu Ala Ser Pro Ser Arg Leu Ala Lys Phe Leu Arg Glu Asn	
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Gly Tyr Lys Val Leu Gln Pro Arg Ser Leu Pro Glu Asn Glu Glu Tyr	
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Glu Thr Asp Gln Ile Leu Pro Asp Leu Ala Trp Met Arg Gln Ile Glu	
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Gly Ala Val Leu Lys Pro Thr Leu Ser Leu Pro Ile Gly Asp Gln Glu	
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Tyr Phe Pro Lys Tyr Tyr Pro Thr His Arg Pro Ser Lys Glu Lys Pro	
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Asn Ala Tyr Pro Pro Asp Ile Ala Leu Leu Lys Gln Met Ile Tyr Leu	
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Phe Leu Gln Val Pro Glu Ala Asn Glu Gly Leu Lys Asp Glu Val Thr	
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ctc ttg acc caa aac ata agg gac aag gcc tat gga agt ggg acc tac	3894
Leu Leu Thr Gln Asn Ile Arg Asp Lys Ala Tyr Gly Ser Gly Thr Tyr	
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Met Gly Gln Ala Asn Arg Leu Val Ala Met Lys Glu Val Ala Thr Gly	
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Arg Asn Pro Asn Lys Asp Pro Leu Lys Leu Gly Tyr Thr Phe Glu Ser	
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gtg ctg acg gga gac gta gat ggc gac ttt gag gtt gaa gat tac ctt Val Leu 235 Thr Gly Asp Val Asp 240 Gly Asp Phe Glu Val 245 Glu Asp Tyr Leu	4134
ccc aaa atc aac ctc aag tca tca agt gga cta cca tat gta ggt cgc Pro Lys Ile Asn Leu 255 Ser Ser Ser Gly Leu 260 Pro Tyr Val Gly Arg 265	4182
acc aaa gga gag aca att ggc gag atg ata gct ata tca aac cag ttt Thr Lys Gly Glu Thr 270 Ile Gly Glu Met Ile 275 Ala Ile Ser Asn Gln Phe 280	4230
ctc aga gag cta tca aca ctg ttg aag caa ggt gca ggg aca aag ggg Leu Arg Glu Leu 285 Ser Thr Leu Leu Lys 290 Gln Gly Ala Gly Thr 295 Lys Gly	4278
tca aac aag aag aag cta ctc agc atg tta agt gac tat tgg tac tta Ser Asn Lys 300 Lys Lys Leu Leu Ser 305 Met Leu Ser Asp Tyr 310 Trp Tyr Leu	4326
tca tgc ggg ctt ttg ttt cca aag gct gaa agg tac gac aaa agt aca Ser Cys 315 Gly Leu Leu Phe Pro 320 Lys Ala Glu Arg Tyr 325 Asp Lys Ser Thr	4374
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gaa ccc aag gct ctt gta tat gcg gac aac ata tac att gtc cac tca Glu Pro 395 Lys Ala Leu Val Tyr 400 Ala Asp Asn Ile Tyr 405 Ile Val His Ser	4614
aac acg tgg tac tca att gac cta gag aag ggt gag gca aac tgc act Asn Thr Trp Tyr Ser Ile 415 Asp Leu Glu Lys Gly Glu Ala Asn Cys Thr 425	4662
cgc caa cac atg caa gcc gca atg tac tac ata ctc acc aga ggg tgg Arg Gln His Met Gln 430 Ala Ala Met Tyr Tyr 435 Ile Leu Thr Arg Gly Trp 440	4710
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ttg atg aga cag ccc aga cca gac Leu Met Arg Gln Pro Arg Pro Asp	agc gag gag ttc aaa tca att gag Ser Thr Leu Val Leu Phe Lys Ser Ile Glu	4950	
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agg ggc aag ctg aga cag ctt gtc Arg Gly Lys Leu Arg Gln Leu Val	ctc ctt gca caa cca ggg tac ctg Leu Leu Ala Gln Pro Gly Tyr Leu	5046	
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cta cta ggg tgg tca gct aca tac Leu Leu Gly Trp Ser Ala Thr Tyr	agc aaa gat ctc ggg atc tat gtg Ser Lys Asp Leu Gly Ile Tyr Val	5142	
ccg gtg ctt gac aag gaa cgc cta Pro Val Leu Asp Lys Glu Arg Leu	ttt tgt tct gct gcg tat ccc aag Phe Cys Ser Ala Tyr Pro Lys	5190	
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acaccgcg	cgcttaatgc	gccgctacag	ggcgctccc	attcgccatt	caggctgcaa	10257
ataagcggtg	atattcagtc	aattacaaac	attaataacg	aagagatgac	agaaaaattt	10317

114 Sequence Listing.ST25.txt

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tcattctgtg acagagaaaa agtagccgaa gatgacggtt tgtcacatgg agttggcagg 10377
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tgctttattd gtgaaatttg tgatgctatt gctttatttg taaccattat aagctgcaat 10737
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gaggtttttt aaagcaagta aaacctctac aaatgtggta tggctgatta tgatcctcta 10857
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<210> 2
 <211> 879
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic Construct

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Met Ser Asp Val Phe Asn Ser Pro Gln Ala Arg Ser Thr Ile Ser Ala
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Ala Phe Gly Ile Lys Pro Thr Ala Gly Gln Asp Val Glu Glu Leu Leu
 20 25 30

Ile Pro Lys Val Trp Val Pro Pro Glu Asp Pro Leu Ala Ser Pro Ser
 35 40 45

Arg Leu Ala Lys Phe Leu Arg Glu Asn Gly Tyr Lys Val Leu Gln Pro
 50 55 60

Arg Ser Leu Pro Glu Asn Glu Glu Tyr Glu Thr Asp Gln Ile Leu Pro
 65 70 75 80

Asp Leu Ala Trp Met Arg Gln Ile Glu Gly Ala Val Leu Lys Pro Thr
 85 90 95

Leu Ser Leu Pro Ile Gly Asp Gln Glu Tyr Phe Pro Lys Tyr Tyr Pro
 100 105 110

Thr His Arg Pro Ser Lys Glu Lys Pro Asn Ala Tyr Pro Pro Asp Ile
 115 120 125

114 Sequence Listing.ST25.txt

Ala Leu Leu Lys Gln Met Ile Tyr Leu Phe Leu Gln Val Pro Glu Ala
130 135 140

Asn Glu Gly Leu Lys Asp Glu Val Thr Leu Leu Thr Gln Asn Ile Arg
145 150 155 160

Asp Lys Ala Tyr Gly Ser Gly Thr Tyr Met Gly Gln Ala Asn Arg Leu
165 170 175

Val Ala Met Lys Glu Val Ala Thr Gly Arg Asn Pro Asn Lys Asp Pro
180 185 190

Leu Lys Leu Gly Tyr Thr Phe Glu Ser Ile Ala Gln Leu Leu Asp Ile
195 200 205

Thr Leu Pro Val Gly Pro Pro Gly Glu Asp Asp Lys Pro Trp Val Pro
210 215 220

Leu Thr Arg Val Pro Ser Arg Met Leu Val Leu Thr Gly Asp Val Asp
225 230 235 240

Gly Asp Phe Glu Val Glu Asp Tyr Leu Pro Lys Ile Asn Leu Lys Ser
245 250 255

Ser Ser Gly Leu Pro Tyr Val Gly Arg Thr Lys Gly Glu Thr Ile Gly
260 265 270

Glu Met Ile Ala Ile Ser Asn Gln Phe Leu Arg Glu Leu Ser Thr Leu
275 280 285

Leu Lys Gln Gly Ala Gly Thr Lys Gly Ser Asn Lys Lys Lys Leu Leu
290 295 300

Ser Met Leu Ser Asp Tyr Trp Tyr Leu Ser Cys Gly Leu Leu Phe Pro
305 310 315 320

Lys Ala Glu Arg Tyr Asp Lys Ser Thr Trp Leu Thr Lys Thr Arg Asn
325 330 335

Ile Trp Ser Ala Pro Ser Pro Thr His Leu Met Ile Ser Met Ile Thr
340 345 350

Trp Pro Val Met Ser Asn Ser Pro Asn Asn Val Leu Asn Ile Glu Gly
355 360 365

Cys Pro Ser Leu Tyr Lys Phe Asn Pro Phe Arg Gly Gly Leu Asn Arg
370 375 380

114 Sequence Listing.ST25.txt

Ile Val Glu Trp Ile Leu Ala Pro Glu Glu Pro Lys Ala Leu Val Tyr
385 390 395 400

Ala Asp Asn Ile Tyr Ile Val His Ser Asn Thr Trp Tyr Ser Ile Asp
405 410 415

Leu Glu Lys Gly Glu Ala Asn Cys Thr Arg Gln His Met Gln Ala Ala
420 425 430

Met Tyr Tyr Ile Leu Thr Arg Gly Trp Ser Asp Asn Gly Asp Pro Met
435 440 445

Phe Asn Gln Thr Trp Ala Thr Phe Ala Met Asn Ile Ala Pro Ala Leu
450 455 460

Val Val Asp Ser Ser Cys Leu Ile Met Asn Leu Gln Ile Lys Thr Tyr
465 470 475 480

Gly Gln Gly Ser Gly Asn Ala Ala Thr Phe Ile Asn Asn His Leu Leu
485 490 495

Ser Thr Leu Val Leu Asp Gln Trp Asn Leu Met Arg Gln Pro Arg Pro
500 505 510

Asp Ser Glu Glu Phe Lys Ser Ile Glu Asp Lys Leu Gly Ile Asn Phe
515 520 525

Lys Ile Glu Arg Ser Ile Asp Asp Ile Arg Gly Lys Leu Arg Gln Leu
530 535 540

Val Leu Leu Ala Gln Pro Gly Tyr Leu Ser Gly Gly Val Glu Pro Glu
545 550 555 560

Gln Ser Ser Pro Thr Val Glu Leu Asp Leu Leu Gly Trp Ser Ala Thr
565 570 575

Tyr Ser Lys Asp Leu Gly Ile Tyr Val Pro Val Leu Asp Lys Glu Arg
580 585 590

Leu Phe Cys Ser Ala Ala Tyr Pro Lys Gly Val Glu Asn Lys Ser Leu
595 600 605

Lys Ser Lys Val Gly Ile Glu Gln Ala Tyr Lys Val Val Arg Tyr Glu
610 615 620

Ala Leu Arg Leu Val Gly Gly Trp Asn Tyr Pro Leu Leu Asn Lys Ala
625 630 635 640

114 Sequence Listing.ST25.txt

Cys Lys Asn Asn Ala Gly Ala Ala Arg Arg His Leu Glu Ala Lys Gly
 645 650 655
 Phe Pro Leu Asp Glu Phe Leu Ala Glu Trp Ser Glu Leu Ser Glu Phe
 660 665 670
 Gly Glu Ala Phe Glu Gly Phe Asn Ile Lys Leu Thr Val Thr Ser Glu
 675 680 685
 Ser Leu Ala Glu Leu Asn Lys Pro Val Pro Pro Lys Pro Pro Asn Val
 690 695 700
 Asn Arg Pro Val Asn Thr Gly Gly Leu Lys Ala Val Ser Asn Ala Leu
 705 710 715 720
 Lys Thr Gly Arg Tyr Arg Asn Glu Ala Gly Leu Ser Gly Leu Val Leu
 725 730 735
 Leu Ala Thr Ala Arg Ser Arg Leu Gln Asp Ala Val Lys Ala Lys Ala
 740 745 750
 Glu Ala Glu Lys Leu His Lys Ser Lys Pro Asp Asp Pro Asp Ala Asp
 755 760 765
 Trp Phe Glu Arg Ser Glu Thr Leu Ser Asp Leu Leu Glu Lys Ala Asp
 770 775 780
 Ile Ala Ser Lys Val Ala His Ser Ala Leu Val Glu Thr Ser Asp Ala
 785 790 795 800
 Leu Glu Ala Val Gln Ser Thr Ser Val Tyr Thr Pro Lys Tyr Pro Glu
 805 810 815
 Val Lys Asn Pro Gln Thr Ala Ser Asn Pro Val Val Gly Leu His Leu
 820 825 830
 Pro Ala Lys Arg Ala Thr Gly Val Gln Ala Ala Leu Leu Gly Ala Gly
 835 840 845
 Thr Ser Arg Pro Met Gly Met Glu Ala Pro Thr Arg Ser Lys Asn Ala
 850 855 860
 Val Lys Met Ala Lys Arg Arg Gln Arg Gln Lys Glu Ser Arg Gln
 865 870 875

<210> 3

114 Sequence Listing.ST25.txt

<211> 13
 <212> PRT
 <213> Infectious bursal disease virus
 <400> 3
 Gly Arg Trp Ile Arg Thr Val Ser Asp Glu Asp Leu Glu
 1 5 10

<210> 4
 <211> 37
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic Construct

<400> 4
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37

<210> 5
 <211> 31
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic Construct

<400> 5
 cgcgggtacc ttaccagcgg ccagccgac c

31

<210> 6
 <211> 33
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic Construct

<400> 6
 cgcgggtacc ttaaccaggg ggtctctgtg ttg

33

<210> 7
 <211> 33
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic Construct

<400> 7
 cgcgggtacc ttatgttgga gcattgggtt ttg

33

<210> 8
 <211> 31
 <212> DNA
 <213> Artificial Sequence

114 Sequence Listing.ST25.txt

<220>

<223> Synthetic Construct

<400> 8

cgcggtacc ttattttggc ttgggctttg g

31

<210> 9

<211> 31

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 9

cgcggtacc ttatggtaga gcccgcctgg g

31